Reg. No.												

Question Paper Code	12530

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023

Second Semester

Civil Engineering

20ESEE202 - BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING

(Regulations 2020)

Duration: 3 Hours Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

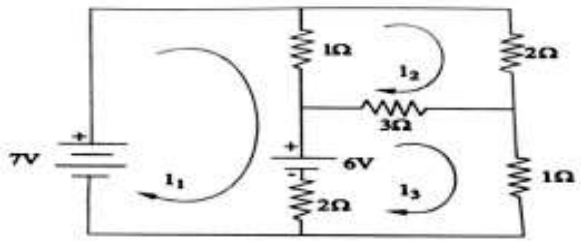
Answer ALL Questions

		Marks, K-Level, CO
1.	Define Ohm's Law.	*2,K1,CO1*
2.	Compare series and parallel circuit.	*2,K2,CO1*
3.	Define power factor.	*2,K1,CO2*
4.	Interpret any four advantages of three phase system.	*2,K2,CO2*
5.	What is back e.m.f. of DC motor?	*2,K1,CO3*
6.	Why transformers are rated in KVA instead of KW?	*2,K1,CO3*
7.	Mention the applications of Zener Diode.	*2,K1,CO4*
8.	Draw the Drain Characteristics of JFET.	*2,K1,CO4*
9.	What is LVDT?	*2,K1,CO5*
10.	Differentiate sensors and transducers.	*2,K1,CO6*

PART - B (5 × 13 = 65 Marks)

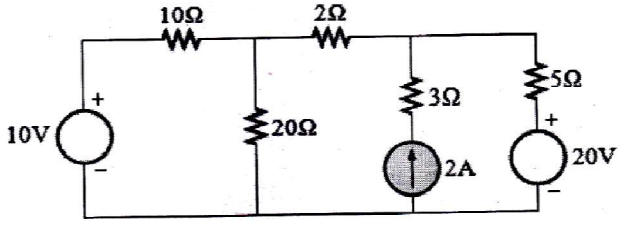
Answer ALL Questions

11. a) Use mesh analysis to determine the three mesh currents in the circuit. *13,K2,CO1*



OR

b) Find the voltage across 2Ω resistor by using superposition theorem. *13,K2,CO1*



12. a) Illustrate the wiring materials and its accessories used for House wiring. *13,K3,CO2*

OR

b) Explain in detail about three phase balanced circuits. *13,K2,CO2*

13. a) Explain the principle of operation of DC motor and derive its torque equation. *13,K2,CO3*

OR

b) Explain the principle working of Single phase Induction motor. *13,K2,CO3*

14. a) Illustrate the construction and working of Bipolar Junction Transistor (BJT). Also draw the input and output characteristics of the common emitter configuration. *13,K2,CO4*

OR

b) Explain the working of an Op-amp as an inverting and non-inverting amplifier. *13,K2,CO4*

15. a) Elaborate with a neat sketch, the construction and working principle of piezoelectric transducer and list its advantages and disadvantages. *13,K2,CO6*

OR

b) Explain three phase power measurement using two wattmeter methods with necessary circuit diagram, phasor diagrams and expressions. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Explain the working principle and construction of single phase transformer and derive its emf equation. *15,K5,CO3*

OR

b) With a neat sketch explain about the working of Permanent Magnet Moving Coil (PMMC) and derive its torque equation. *15,K5,CO6*